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EXAMINER	
LY, CHEYNE D	

ART UNIT	PAPER NUMBER
2168	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

RSWIPLAW@us.ibm.com

Office Action Summary	Application No. 10/683,783	Applicant(s) ZHANG ET AL.	
	Examiner CHEYNE D. LY	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 June 2009.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8,10,15-22,24 and 25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) 1-8, 10, 15-22, 24, 25, and 25 is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-8, 10, 15-22, 24, 25, and 25 are examined on the merits.

2. Applicant's arguments filed June 12, 2009 have been fully considered but they are not persuasive as discussed below.

3. On pages 2-4, Applicant argues Lior fails to describe the limitation of "searching a chain of one or more service description documents..." as exemplified by the specification on page 9, ll. 22-26. Applicant's argument is not persuasive because Lior discloses a WSDL document monitoring unit (not shown) which **monitors addresses or UDDI servers having WSDL documents for new WSDL documents** and/or for changes to existing WSDL documents (page 3, [0055]). The method (44) may further include steps of monitoring WSDL document repositories 12 for changes to WSDL documents and updating the respective database records accordingly. When generating an initial Web services information file 22, steps 41 to 43 may be repeated for each WSDL document in a WSDL document repository 12 (page 4, [0061]). The WSDL document monitoring unit may periodically monitor for WSDL document changes in network addresses or UDDI servers having WSDL documents (page 4, [0062]). The disclosure above supports that the WSDL documents are at least linked together by a network address of an UDDI server. Further, Chow discloses deeper levels of change monitoring can also be adopted as a matter of policy, such as checking whether any of the objects referred to by URLs within a document have changed. This kind of monitoring of changes can be carried to multiple levels by a recursive application through linked documents of the change detection mechanism applied at the top level defined by a single document with its embedded hyperlinks (column 6, lines 43-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to improve the method of Lior to detect changes to maintain overall efficacy while reducing the workload of the administrator with the change monitoring of Chow by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs. Chow discloses deeper levels of change monitoring can also be adopted as a matter of policy, such as checking whether any of the objects referred to by URLs within a document have changed. This kind of monitoring of changes can be carried to multiple levels by a recursive application through linked documents of the change detection mechanism applied at the top level defined by a single document with its embedded hyperlinks (column 6, lines 43-50). The above supports that in order to traverse to the user specified document of interest (granularity) the method of Chow requires monitoring of changes can be carried to multiple levels by a recursive application through linked documents of the change detection mechanism applied at the top level defined by a single document with its embedded hyperlinks.

4. On pages 4-7, Applicant argues Lior fails to a user-specific level of granularity and Chow fails to address the deficiencies because Chow has nothing to do with WSDL. Applicant's arguments are not persuasive as discussed below. Examiner has conceded that Lior does not describe the limitation of the "searching a chain of one or more service description documents…in accordance with a user-specified level of granularity that defines a chain traversal depth to be used when searching the chain of one or more service description documents." As for Chow, columns 5 and 6 as cited by Applicant supports the limitation of "a user-specific level of granularity." For example, Chow describes "a user input indicating that the

user has some interest in monitoring a particular document" (column 5, lines 32-34) which suggests that the user input specifies the level of granularity to the specific document. Lior describes an improvement to provide a novel method for automatically provisioning Web services access management systems, and maintaining those policies as the Web services change, to maintain overall efficacy while reducing the workload of the administrator (page 1, [0008]). While, Chow describes an improvement by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs (column 6, lines 51-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve the method of Lior to detect changes to maintain overall efficacy while reducing the workload of the administrator with the change monitoring of Chow by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs.

5. On pages 8-9, Applicant argues Brittenham fails to address the deficiencies of Lior and Chow. Further, Applicant argues Brittenham fails to disclose does not teach or suggest aggregating a plurality of result sets obtained during the searching step into an aggregated result, and then making the aggregated result available to the client as recited in claims 5 and 19. It is noted that Lior in view of Chow discloses the searching and generating of search results. While, Brittenham has been cited to describe linking together WS-inspection documents by have one primary WS-inspection document to link all the WS-inspection documents together (page 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to improve conventional Web services technologies to address the needs of distributed systems by using WS-Inspection document as described by Brittenham with the web monitoring described by Lior and Chow to detect changes.

6. In regard to claims 6 and 20, Lior in view of Chow describes all the limitations to claims 6 and 20 except for the limitation "plurality of result sets…" Brittenham describes the step of aggregating a plurality of result sets obtained during the searching step into an aggregated result (page 5, Linking to WS-Inspection documents section). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve conventional Web services technologies to address the needs of distributed systems by using WS-Inspection document as described by Brittenham with the web monitoring described by Lior and Chow to detect changes.

7. In regard to claims 3, 4, 17, and 18, Applicant's argument directed to independent claims 1 and 15 has been addressed above. In regard to the a proper case of obviousness, Lior describes an improvement to provide a novel method for automatically provisioning Web services access management systems, and maintaining those policies as the Web services change, to maintain overall efficacy while reducing the workload of the administrator (page 1, [0008]). Chow describes an improvement by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs (column 6, lines 51-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve conventional Web services technologies to address the

needs of distributed systems by using WS-Inspection document as described by Lim with the web monitoring described by Lior in view of Chow to detect changes.

CLAIM REJECTIONS - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 2, 7, 8, 10, 15, 16, 21, 22, 24, 25, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lior (US 2003/0220925 A1) taken with Chow et al. (US 6,029,175 A) (Chow hereafter).

11. In regard to claim 1, Lior discloses a method of discovering services available in accordance with an information network, comprising the steps of:

Obtaining a request from a client to perform a search for one or more services (page 3, lines 4-6, e.g. search a specific...query a UDDI directory for WSDL documents);

Searching a chain of one or more service description documents, based on the client request (page 3, lines 4-6, e.g. search a specific...query a UDDI directory for WSDL documents, and page 4, [0058]), wherein the searching step further comprises determining one or more changed service description documents in the set of one or more service description documents by detecting changes in one or more attributes of the one or more changed service description documents (page 3, [0055], e.g. a WSDL monitoring unit…for changes to existing WSDL documents), wherein the searching step is configurable to be performed at different levels of granularity (page 3, [0049], e.g. tree structure, and page 4, [0056], e.g. The WSDL document monitor unit may also receive a signal from an application programming interface (API) or via the configuration user interface to execute a check on a specific file, or on all the files in a given location, or all locations); making a result of the search available to the client (page 4, [0064], e.g. alerting an administrator that a change has occurred...updating a Web services information file).

12. However, Lior does not describe the limitation of the "searching a chain of one or more service description documents…in accordance with a user-specified level of granularity that defines a chain traversal depth to be used when searching the chain of one or more service description documents."

13. Chow discloses searching a chain of one or more service description documents (column 6, lines 18-19, e.g. accept a URL from a user through an HTTP browser…delivery of the requested document with translated hyperlinks, and page 10, lines 9-23, e.g. hyperlinks in the original document are translated)…in accordance with a user-specified level of granularity (column 9, lines 62, e.g. user enters a URL) that defines a chain traversal depth to be used when

searching the chain of one or more service description documents (column 6, lines 36-55, e.g. query as to whether a file has been modified…deeper levels of change monitoring…checking whether any of the objects referred to by URLs within a document have changed...multiple levels by a recursive application through linked documents of the change detection mechanism applied at the top level defind by a single document with its embedded hyperlinks…users to inform it of which documents are worthy of monitoring).

14. Lior describes an improvement to provide a novel method for automatically provisioning Web services access management systems, and maintaining those policies as the Web services change, to maintain overall efficacy while reducing the workload of the administrator (page 1, [0008]). While, Chow describes an improvement by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs (column 6, lines 51-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve the method of Lior to detect changes to maintain overall efficacy while reducing the workload of the administrator with the change monitoring of Chow by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs.

15. In regard to claim 2, Lior in view of Chow discloses comparing at least a portion of a current instance of the chain of one or more service description documents to at least a portion of a previous instance of the set of one or more service description documents (pages 3-4, [0056],

e.g. check the last modification date of the file…compute a checksum which is compared to a previous checksum).

16. In regard to claim 7, Lior in view of Chow discloses the step of obtaining information used to control performance of the search step (page 4, [0059] to [0060], e.g. parse the WSDL document to extract information).

17. In regard to claim 8, Lior in view of Chow discloses searching step is performed in association with multiple data sources (page 2, [0039], e.g. file system or a UDDI).

18. In regard to claims 10, 15, 16, 21, 22, 24, and 25, and 35, Lior in view of Chow discloses apparatus and article of manufacture (page 5, [0068]) for implementing the above-cited method.

Claim Rejections - 35 USC § 103

19. Claims 5, 6, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lior (US 2003/0220925 A1)) taken with Chow et al. (US 6,029,175 A) (Chow hereafter) as applied to claims 1, 2, 7, 8, 10, 15, 16, 21, 22, 24, 25, and 35 above, and further in view of Brittenham P. (2002) (Brittenham hereafter).

20. In regard to claims 5 and 19, Lior in view of Chow describes all the limitations to claims 5 and 9 except for the limitation "aggregating a plurality of result set…" Brittenham describes the step of aggregating a plurality of result sets obtained during the searching step into an aggregated result (page 2, 4th paragraph, and page 3, lines 6-9, page 5, Linking to WS-Inspection documents section), and then making the aggregated result available to the client (page 2, lines 3-6). Lior describes an improvement to provide a novel method for automatically provisioning Web services access management systems, and maintaining those policies as the Web services change, to maintain overall efficacy while reducing the workload of the administrator (page 1,

[0008]). Chow describes an improvement by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs (column 6, lines 51-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve conventional Web services technologies to address the needs of distributed systems by using WS-Inspection document as described by Brittenham with the web monitoring described by Lior and Chow to detect changes.

21. In regard to claims 6 and 20, Lior in view of Chow describes all the limitations to claims 6 and 20 except for the limitation "plurality of result sets…" Brittenham describes the step of aggregating a plurality of result sets obtained during the searching step into an aggregated result (page 5, Linking to WS-Inspection documents section). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve conventional Web services technologies to address the needs of distributed systems by using WS-Inspection document as described by Brittenham with the web monitoring described by Lior and Chow to detect changes.

22. Claims 3, 4, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lior (US 2003/0220925 A1) in view of Chow et al. (US 6,029,175 A) (Chow hereafter) as applied to claims 1, 2, 7, 8, 10, 15, 16, 21, 22, 24, 25, and 35 above, and further in view of Lim et al. (2001) (Lim hereafter).

23. In regard to claims 3 and 17, Lior in view of Chow describes all the limitations to claims 3 and 17 except for the limitation "service documents is stored in a cache." Lim describes the caching of the entire web on a local file system for detecting and updating web document

changes (page 141, Section 6). Lior describes an improvement to provide a novel method for automatically provisioning Web services access management systems, and maintaining those policies as the Web services change, to maintain overall efficacy while reducing the workload of the administrator (page 1, [0008]). Chow describes an improvement by providing a site convenient to a group of users a single cache of the most recent versions of documents so that all members of the group can have quick and inexpensive access, while the group as a whole can significantly reduce communication costs (column 6, lines 51-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve conventional Web services technologies to address the needs of distributed systems by using WS-Inspection document as described by Lim with the web monitoring described by Lior in view of Chow to detect changes.

24. In regard to claims 4 and 18, Lior in view of Chow describes all the limitations to claims 4 and 18 except for the limitation "one or more service description documents is used to update a cache." Lim describes the caching of the entire web on a local file system for detecting and updating web document changes (page 141, Section 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to improve conventional Web services technologies to address the needs of distributed systems by using WS-Inspection document as described by Lim with the web monitoring described by Lior in view of Chow to detect changes.

CONCLUSION

25. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

27. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

28. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571)272-3642.

/Cheyne D Ly/
Primary Examiner, Art Unit 2168